

REMARKS

In response to the outstanding Office Action, Applicants provide the remarks below. For reasons unrelated to the teachings of the art cited by the Examiner, Applicants have amended the independent claims to better describe the invention. Applicants have also added new claims 21 and 22. Support for the features described in new claims 21 and 22 can be found at least in para. [00068] of the application.

I. Claim Objections

Claims 19 and 20 were objected to for reciting that the “persistence parameter” and “data pruning parameter” were claimed as being “of the quick recovery volume.” Applicants have amended claims 19 and 20 to recite that the “persistence parameter” and “data pruning parameter” are “provided in the policy.” These features are described, e.g., in paragraph [00035] of the specification.

II. Claim Rejections Under 35 U.S.C. §101

Claim 16 was rejected under 35 U.S.C. §101 as directed to non-statutory subject matter for being directed to “a copy of a primary volume” produced by certain steps. As suggested by the Examiner, Applicants have amended claim 16 to recite “A method for producing a copy of a primary volume” comprising certain steps.

III. Claim Rejections Under 35 U.S.C. §102

Claims 1, 10 and 14-18 are rejected under 35 U.S.C. §102(e) as anticipated by St. Pierre. Claims 2-4 and 7-8 are rejected under 35 U.S.C. §103(a) as obvious in light of St. Pierre in view of Dunphy. Claims 5-6 are rejected under 35 U.S.C. §103(a) as obvious in light of St. Pierre in view of De Meno. Claims 9 and 19-20 are rejected under 35 U.S.C. §103(a) as obvious in light of St. Pierre in view of Midgely. These rejections are respectfully traversed in light of the amendments to the claims.

Applicants have amended the independent claims to describe, inter alia, “selecting the first [or second] snapshot for copying to a corresponding quick recovery volume;” and “performing a block-level copy of the selected snapshot to the corresponding quick recovery volume.” Some independent claims also recite “deleting the selected snapshot after the block-level copy is complete.” Support for these amendments is found at least at paragraphs [00048]-[00050] and [00054] of the application. Therein, the application describes one example of the present system where a quick recovery volume is created from a snapshot image of the primary data set. The application describes that, in at least one example, a snapshot is a shadow copy of data that is exposed as a separate logical volume. In some examples, this copy is created by a copy-on-write technique. Under this system, a quick recovery agent performs a block-level copy of the primary data set from the snapshot image to a quick recovery volume destination disk. Multiple snapshot images of the primary data set may be created at various times and a selected image copied to the quick recovery volume. The snapshot may be deleted at a specified time after the creation of the quick recovery volume. Thus, an intermediate snapshot copy is effectively produced between the primary data set and the quick recovery volume. This system thus enables efficient creation, management, and recovery of files and data.

The primary reference relied upon, St. Pierre, fails to show many elements of the claims. St. Pierre is directed to a basic incremental backup system. According to St. Pierre, a “level zero” backup is performed first. A level zero backup is a complete backup of a logical construct, such as an entire file or an entire partition. Later, only the data segments that have been changed are backed up. Thus, St. Pierre only discloses creating a single backup and updating that backup as changes are made to the primary data set. The teachings of St. Pierre are well known and are not particularly related to the claimed invention. For instance, St. Pierre does not show snapshot images or any other intermediate copies that would correspond to the snapshots of the claims. Rather, St. Pierre shows multiple differential backups including only the primary copy data elements that have been

changed. Snapshots, however, are not limited to only data that has been changed. Furthermore, St. Pierre does not disclose a “quick recovery volume.” As described in the application at least in para. [00034], a quick recovery volume is a full replica of data that can be mounted and pointed to be used in place of the original volume. For at least these reasons, Applicants respectfully submit that St. Pierre does not anticipate the pending claims.

IV. Claim Rejections Under 35 U.S.C. §103

The Examiner relied upon a combination of St. Pierre with Dunphy in rejecting claims 2-4 and 7-8. Dunphy, however, does not overcome the deficiencies of St. Pierre. Dunphy is directed to a system wherein the data storage and protection system automatically monitors all data file activity on the computer system and maintains a list of all data files that are to be backed up to backup media. The data storage and protection apparatus, on a user initiated, timed or automatic basis, then transmits the selected data files to the backup device for storage on the backup media. (See Dunphy at col 2, lines 40-52.) Applicants respectfully submit that these systems and methods are unrelated to the claimed invention.

The Examiner relied upon a combination with De Meno in rejecting claims 5-6. De Meno, however, also does not overcome the deficiencies of St. Pierre. De Meno is directed to an application specific rollback module with an index for assisting in locating different states of the application specific data that were generated by the user requests. The application specific rollback module provides access to a specific version of the application specific data when requested by a user such that the application specific data from a user selected date is accessible. (See De Meno at para. [0008].) Applicants respectfully submit that these systems and methods are unrelated to the claimed invention.

The Examiner relied upon a combination with Midgely in rejecting claims 9 and 19-20. Midgely, however, also does not overcome the deficiencies of St. Pierre. Midgely is directed to a system wherein when the contents of a protected file is altered, the new current version is copied to

the current volume. When the current volume is full to a defined limit, a new volume is selected to be the current volume. The population of an active set of the sequential-access volumes is maintained at or below a bounded number. (See Midgely at col 1, lines 59-67.) Applicants respectfully submit that these systems and methods are unrelated to the claimed invention.

For at least these reasons, Applicants submit that the cited references do not anticipate or render obvious the pending claims as amended. No new matter has been added by this Amendment and an early action allowing claims 1-22 is solicited. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event that the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees in connection with the filing of this document to Deposit Account No. 50-0665 referencing docket no. 606928008US1.

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